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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/019,962 | 01/07/2002 | Mika Perala | 3501-1001 | 6257 |
| 466 | 7590 | 08/07/2006 | | EXAMINER |
| YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202 | | | MOORE, MARGARET G | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1712 | |

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|--------------------------------------|-------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/019,962 | PERALA ET AL. |
| | Examiner Margaret G. Moore | Art Unit 1712 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 30 May 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 8, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 8, 13 and 14 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

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1. The instant application has been transferred to a new examiner, Examiner Margaret Moore. This Examiner has withdrawn the allowability of the pending claims in view of the following new grounds for rejection. The Examiner apologizes for this unintentional delay in prosecution.

2. Claims 8 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, the breadth of the claim is unclear. Applicants first limit the aliphatic epoxy resin to the formula shown on the bottom of page 2 of the newly submitted claims but then limit the aliphatic epoxy resin to the formula shown at the end of the claim. This confuses the breadth.

For both claims 8 and 13, please note that in the aliphatic epoxy resin formula the group $-\text{CH}_2\text{H}_5$ is structurally incorrect.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Foscante et al. in view of Plueddemann.

Foscante et al. teach a polymer composition containing an epoxy resin and a epoxy silane. Note that column 4, lines 36 and on, describe the epoxy resin and incorporates by reference the teachings in Wagner. Wagner teaches on column 3, lines 35 and 36, that the epoxy resin can be non-aromatic and thus the epoxy resins in Foscante et al. can, also, be non-aromatic. Column 6 in Foscante et al. teach adding an epoxy silane or an amino silane to the epoxy resin.

Particular attention is drawn to Examples 3A and 4A. These differ from the instant claim in two ways, 1) they use an aromatic epoxy resin and 2) they contain an aminosilane rather than an epoxy silane. Note that these examples use the silanes in combination with a silicone resin meeting claimed component ii) to obtain the siloxane network.

With regard to the first difference, as noted above, Foscante et al. specifically teach that non-aromatic epoxy resins can be used in the alternative to aromatic epoxy resins. As such this difference would have been obvious to the skilled artisan.

With regard to the second difference, as also noted above, Foscante et al. also teach the alternative use of amino and epoxy silanes in as a means of obtaining a siloxane backbone. As such this difference would also have been obvious to the skilled artisan.

With regard to the specific epoxy silane selection required by claim 14, the Examiner notes that column 6, line 13, provides only a general teaching of a silane structure. One having ordinary skill in the art would have been motivated to look to analogous or comparable arts in an effort to determine a specific silane suitable for use in the composition of Foscante et al. With this in mind, note that Plueddemann was relied upon in the examination of Foscante et al. (it is cited on the front page of the patent). The skilled artisan, looking to determine operable epoxy silanes meeting the formula in Foscante et al., would have been motivated to turn to references that were considered pertinent in the examination of Foscante et al. and thus would have been motivated to turn to the teachings of Plueddemann to this extent.

Plueddemann teaches the epoxy silane iii) as claimed. See the first A group on column 1, line 60.

Thus one having ordinary skill in the art would have been motivated to select the epoxy silane in Plueddemann as the epoxy silane to be used in Foscante et al. In this manner the instant claim is obvious over this combination of references.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoehn et al. in view of Plueddemann.

Hoehn et al. teach a resin of an epoxysiloxane and an epoxy resin. The epoxy resin is the reaction product between a silanol terminal siloxane and an epoxy silane. See column 2, lines 40 to 55 (while the formula (1) is structurally incorrect, a proper structure can be found in the claims of Hoehn et al.). Note that the epoxysilane can have an epoxycycloalkyl group. The siloxane of formula (2) corresponds to the claimed polysiloxane ii).

Please note for instance the resin taught in Example 1. An epoxysilane and a polysiloxane are first reacted, followed by admixture with a cycloaliphatic epoxy resin. The Examiner notes that nothing in the instant claims excludes components ii) and iii) from being reacted first before mixing with i). Such a composition will contain each of i) to iii), simply added and reacted in a particular order.

Thus the siloxane modified resin prepared in column 4 differs from that claimed only in that it uses a different epoxy silane than that claimed. As noted previously, though, Hoehn et al. teach a silane in which the epoxy is an epoxycycloalkyl group.

With this in mind, one having ordinary skill in the art would have been motivated to turn that which is known in the art, i.e. to turn to other prior art references, to establish the actual structure of an epoxycycloalkylsilane.

Plueddemann teaches epoxycycloalkylsilanes on column 1, line 60. It is taught as an operable epoxysilane for use in coatings, laminates and as intermediates and is shown as an alternative to that which is used in the working examples of Hoehn et al. One having ordinary skill in the art would have been motivated to select such a known silane as the epoxycycloalkylsilane in Hoehn et al. and as such would have found the instant claim to have been obvious.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gasmena in view of Plueddemann.

Gasmena teaches a coating composition containing an epoxy silane, an epoxy resin and a siloxane. See for instance column 3, lines 20 and on. The siloxane shown on column 4 meets claimed component ii). Column 6, line 24, teaches aliphatic epoxy

resins meeting claimed component i). The epoxysilane shown on column 3 differs from that claimed.

As noted previously, Plueddemann teaches both the silane found in claim 14 and the silane found in Gasmeca. See column 1, lines 55 to 70. These silanes are used in the preparation of coating compositions, laminates and as intermediates in the preparation of other organosilicon materials. In this manner Plueddemann indicate that these silanes are considered to be equivalents for such utilities.

It is *prima facie* obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. Note that the express suggestion to substitute one equivalent for another need not be present to render the substitution obvious.

As such one having ordinary skill in the art would have found the use of a cycloaliphatic epoxy silane such as that claimed in place of the glycidyloxy functional silane found in Gasmeca to have been obvious, with a reasonable expectation of obtaining comparable or equivalent results. As such claim 14 is rendered obvious.

7. The Examiner apologizes for the multiple rejections over different prior art references made above. Such rejections are deemed to be necessary, though, since each position of obviousness relies on different rationale.

8. The Examiner notes that claim 14 uses the phrase "consisting essentially of" which limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. The burden is upon applicants to establish any components that could be found in the prior art which materially affect the basic and novel characteristics of the claimed invention.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-

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272-1090. The examiner can normally be reached on Monday to Wednesday and Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Margaret G. Moore
Primary Examiner
Art Unit 1712

mgm
8/2/06